

**REMARKS****I. Allowable Subject Matter**

Claims 4/3/1, 6, 7, 8/6/1, 9/8/6/1, 10/9/8/6/1, 11/4, 11/6, 11/7, 12/11/4 and 12/11/7 are objected to as being dependent upon a rejected base claim. The Examiner has stated that these claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The reasons for allowability are stated in the previous final action, i.e., Paper No. 17.

On page 3 of Paper No. 17, the Examiner indicated that the claimed invention directed to the combination of ion selective membranes and multi-stage flash distillation ("MSF") and vapor compression distillation ("VCD") are patentable. In contrast, the Examiner indicated that the claimed invention directed to the formation of a blended feed to a reverse osmosis ("RO") membrane is not patentable.

**II. Claim Rejections – 35 U.S.C. §103**

Claims 1, 2, 3, 5, 8/1, 10/9/8/1, 11/1, 12/11/112 (*sic*), 1, 15, 16, 17, 18, 27, 28 and 29 are rejected under 35 U.S.C. §103(a) as being unpatentable in view of US 6, 113,797 to Al-Samadi ("Al-Samadi"). Claim 1-3, 5, 11/1, 13, 14, 15, 16, 18, 27-29 are rejected under 35 U.S.C. §103(a) as being unpatentable in view of US 4,341,629 to Uhlinger ("Uhlinger").

The Examiner alleges that it would have been obvious in view of Al-Samadi and Uhlinger to blend a softened stream with a second stream having a relatively higher concentration of hardness ions than the softened stream to form a feed to a RO membrane.

For the reasons of record, Applicant respectfully disagrees with the §103 rejections. The cited prior art neither recognizes the problems associated with increasing the top operating

temperature of a desalination system nor the solution to the problem. The cited prior art is not aware of the effect which varying the percentage mix of softened water in a make-up feed has on the operating temperature of a distillation plant and the recovery of potable water. Even the Examiner has acknowledged that Uhlinger does not clearly disclose the claimed step of varying the proportion of the feed and permeate to form a variable feed. As such, this feature of the claimed invention and its advantages are not inherent in the cited prior art.

Nevertheless, in view of the Examiner's indication of allowable subject matter, Applicant has restricted the claims of this application to desalination processes wherein streams are blended to form a variable feed to a thermal desalination system.

Applicant submits that none of the claim amendments was done in acquiescence of any objection or rejection relating to patentability. Rather, claims were canceled and amended to advance the application to allowance so that Applicant may enjoy the benefits, without delay, conferred by a U.S. patent for allowable subject. Applicant reserve the right to file one or more continuation applications to defend the patentability of patentable subject matter that may have been removed by the claim amendments.

For allow of the foregoing reasons, the §103 rejections in view of Al-Samadi and Uhlinger are moot. Withdrawal of the §103 rejections is requested.

### **III. Claim Rejections – 35 U.S.C. §112, second paragraph**

Claim 10 is rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Examiner states that it is unclear whether the step of

claim 10 applies to the combination of nanofiltration ("NF") and RO since a heated reject is not generated when RO is the desalination process.

Applicant submits that the §112 rejection is moot in view of the claim amendments.

Withdrawal of the §112 rejection is requested.

#### **IV. Drawings**

The drawings are objected to under 37 C.F.R. §1.83(a). The Examiner alleges that the steps of claims 9 and 10 are not clearly shown when RO is the desalination process.

Applicant submits that the objection is moot in view of the claim amendments. In any event, the steps of claim 9 and 10 are clearly shown in Figure 3 when the desalination system employs a thermal process, e.g., MSF. Specifically, in Figure 3, sea water stream 12 flows through a heat reject section of a MSF plant line 12 whereby the heat of condensation provides heat to warm the sea water. A portion of the heated stream is pumped by the NF supply pump via line 19 to NF pretreatment followed by line 20 to NF membrane softening. The softened stream of heated sea water is then delivered via line 21 to a deareator. The Examiner's attention is directed to page 3, lines 7-18, of the specification for a disclosure supporting the steps of claims 9 and 10 as illustrated by Figure 3.

For all of the foregoing reasons, withdrawal of the objection is requested.

CONCLUSION

Upon entry of this Amendment, claims 1-3, 6-18 and 27-29 are pending. Applicants respectfully submit that claims 1-3, 6-18 and 27-29 are directed to patentable subject matter. Accordingly, Applicant requests allowance of the claims.

Authorization is hereby given to charge any fee in connection with this communication to Deposit Account No. 23-1703.

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Respectfully submitted,



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